***Amendments to the Specification***

At page 11, please replace the fourth paragraph (lines 11-19) with the following paragraph:

-- Whole blood was diluted 10 times with 10mM Ammonium Bicarbonate, 10mM Ammonium Carbonate and 0. 1 % ~~Tween 20~~ TWEEN 20 (polyoxyethylene (20) sorbitan monolaurate) pH9 and sucked up and down the cartridge with a syringe and passed back through the cartridge. The dilution buffer can be any hypotonic solution that causes lysis of the red blood cell fraction, but maintains the integrity of nuclei, white blood cells or chromatin. The nuclei became immobilised on the beads and the lysed blood was taken to waste. Direct elution of the nuclear DNA was achieved using hot water. To obtain greater purity DNA, the eluate from the first cartridge was then further processed using another cartridge containing a solid-phase with poly imidazole groups. --

At page 11, please replace the seventh paragraph (lines 26-30) with the following paragraph:

-- Whole blood was diluted 10 times with lOmM Ammonium Bicarbonate and 0. 01% ~~Tween 20~~ TWEEN 20 (polyoxyethylene (20) sorbitan monolaurate) pH9 and sucked up and down the tip of the pipette. The nuclei became immobilised on the beads and the lysed blood was removed to waste. Direct elution of the nuclear DNA was achieved using alkaline detergent solutions and by boiling water.--

At page 12, please replace the third paragraph (lines 14-18) with the following paragraph:

-- Extraction of nuclei or DNA from whole blood

Using the equipment of fig. 2 with the packing of fig. 6 whole blood was lysed with 5 volumes of 10mM Ammonium Bicarbonate containing 0.1 % ~~Tween 20~~ TWEEN 20 (polyoxyethylene (20) sorbitan monolaurate) pH9. The lysed blood was passed through several 20micron porous polyethylene frits modified with larger pores of I mm in diameter, housed in a plastic cartridge attached to a 2ml syringe and plunger. Each frit was spaced 3mm apart to allow free flow of liquid. --

At page 12, please replace the fourth paragraph (lines 19-26) with the following paragraph:

-- The nuclei or white blood cell fraction bound to the frit allowing all the contaminating proteins and lipids to pass through to waste in a single pass or several strokes of the plunger. The frit and nuclei was then washed to remove residual proteins using deionised water or chaotropes or alcohols or detergents such SDS or ~~Tween 20~~ TWEEN 20 (polyoxyethylene (20) sorbitan monolaurate) or combinations or lactic and salicylic acids or their salts, or poly phosphates or per chlorates and either eluted off using hot water or alkaline solutions of detergents or further purified inside the cartridge using chaotropic agents or proteases. --

At page 13, please replace the second paragraph (lines 5-12) with the following paragraph:

-- A buccal scrape was taken and mixed with 0.2M guanidine isothiocyanate, 3% ~~Tween 20~~ TWEEN 20 (polyoxyethylene (20) sorbitan monolaurate), Proteinase K and 50mM MES pl-15 at 300C for 15 minutes. The mixture was then sucked up and down the tip several times allowing

the DNA to bind to the derivatised plug. The plug was washed with 1mM MES pH5 and then the DNA eluted with l0mM Tris. HCI pH9. The same protocol was repeated using 0.01% to 10% SDS with or without salts and buffers. Fast degradation of the buccal cells can also be achieved using salicylic acid, lactic acid, or MgCl2 at concentrations of 0.05 to 5M. Combinations of the above salts and reagents can also be used. --

At page 13, please replace the third paragraph (lines 15-22) with the following paragraph:

-- 1.gram of carboxylated polystyrene beads with a diameter of about 60 microns or 200 to 400 mesh was suspended in a hypotonic solution of ammonium bicarbonate 1OmM with 0.1 % ~~Tween 20~~ TWEEN 20 (polyoxyethylene (20) sorbitan monolaurate) pH9. A five fold excess of this suspension was added to a 5ml blood sample and mixed once. The beads captured the nuclei and sedimented. After several washes with water, the DNA was eluted with hot water. To concentrate the DNA the equipment of fig. 2 was used with the packing of fig. 6 and the DNA was captured on a porous disc in the cartridge and subsequently eluted off in a small volume and analysed using PCR or Restriction Digestion. --

At page 14, please replace the fourth paragraph (lines 17-21) with the following paragraph:

-- Example 10 Extraction of HIV RNA from serum

A cartridge as in fig. 2 was packed with 60 micron silica and a sample of serum diluted 5 times with 6M guanidine isothiocyanate, 0.1 % ~~Tween 20~~ TWEEN 20 (polyoxyethylene (20) sorbitan monolaurate), 20mM EDTA, 100mM Tris. HCI pH6 was sucked up and down through the solid phase. After washing the solid phase with isopropanol and drying the RNA was eluted using water at 60C. --

At page 14, please replace the fifth paragraph (lines 24-27) with the following paragraph:

-- Example 11 Purification of PCR reactions

A cartridge as in fig. 2 was packed with 60 micron silica and a sample of a PCR reaction diluted 5 times with 6M guanidine isothiocyanate, 0. 1 % ~~Tween 20~~ TWEEN 20 (polyoxyethylene (20) sorbitan monolaurate), 20mM EDTA, 100mM Tris-HCI pH6 was sucked up through the solid phase. After washing the solid phase with isopropanol and drying the DNA was eluted using water. --

At page 15, please replace the sixth paragraph (lines 25-29) with the following paragraph:

-- Use of electrodes, static charge, induction, electrophoresis to isolate DNA or RNA

Whole blood was diluted down 10 times in 10mM ammonium carbonate/bicarbonate, 50mM Tris. HCI with 1 % ~~Tween 20~~ TWEEN 20 (polyoxyethylene (20) sorbitan monolaurate), 1001g/ml proteinase K pH9. Electrodes were surrounded by dialysis tubing containing the same buffer and dipped into the solution. A 12 volt direct current from a battery was connected and the nuclei or DNA was captured on the outside of the dialysis tubing at the positive electrode after a 1 hour incubation. The DNA could be removed by elution with water. --